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10/524,090	07/05/2006	Simon Michael West	024944-9010-00	2374

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EXAMINER	
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ART UNIT	PAPER NUMBER
1612	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,090	WEST ET AL.	
	Examiner	Art Unit	
	GIGI HUANG	1612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2009 and 12 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-23,25 and 26* is/are pending in the application.

4a) Of the above claim(s) *20-23 and 25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-19 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/25/2010, 1/20/2010, 12/9/2009, 10/15/2009, 6/24/2009, 6/10/2009, 5/18/2009, 2/24/2009, 12/15/2008*
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of tocopherol as the phosphorylated lipophilic pharmaceutically acceptable compound, lauryliminodipropionic acid as the complexing agent, and lauryliminodipropionic acid tocopherol monophosphate as the resulting complex in the reply filed on January 20, 2010 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). It is noted that the election cited lauryliminodipropionic acid as the complexing agent, and lauryliminodipropionic acid tocopherol monophosphate as the resulting complex but the specification does not support this nomenclature. It does however support laurylaminodipropionic for the two elements. As a result, the elections are taken to be tocopherol as the phosphorylated lipophilic pharmaceutically acceptable compound, laurylaminodipropionic acid or lauryliminodipropionic acid as the complexing agent, and laurylaminodipropionic acid tocopherol monophosphate or lauryliminodipropionic acid tocopherol monophosphate as the resulting complex. Upon review, the complex is expanded to include laurylaminodipropionic acid tocopherol diphosphate lauryliminodipropionic acid tocopherol diphosphate

Status of Application

2. The response filed January 20, 2010has been received, entered and carefully considered. The response affects the instant application accordingly:

a. Claims 1, 4-17, 18-19 have been amended.

b. Claim 2-3, 24 has been cancelled.

c. Claim 26 has been added.

3. Claims 1, 4-23, 25-26 are pending in the case.

4. Claims 1, 4-19, 26 are present for examination.

5. The text of those sections of title 35.U.S. Code not included in this action can be found in the prior Office action.

6. All grounds not addressed in the action are withdrawn or moot.

7. New grounds of rejection are set forth in the current office action.

8.

Information Disclosure Statement

9. The information disclosure statement filed 12/15/2008 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because there is no copy of the Kagan et al. reference, and the IDS filed 6/10/2009 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because there is no copy of the WIPO references indicated on the submitted copy. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

New Grounds of Rejection

Due to the amendment of the claims the new grounds of rejection and objection are applied:

Specification

10. The amendment filed 9/12/2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the amendment to paragraph 38 introduces new matter and indefiniteness to the disclosure. The amendment recites wherein when **$R^1$is R^1(CO)**, wherein R^1 is chosen from the group consisting of straight or branched chain mixed alkyl radicals from C6 to C22 and carbonyl derivatives thereof, and R^2 is -CH3 and

$R^3$is -(CH2CH2)N(CH2CH2(OH))CH2PO3H or R^2 and R^3 are independently -(CH2CH2)N(CH2CH2(OH))CH2(CO)OX, wherein X is H, Na, K or alkanolamine.

The **$R^1$is R^1(CO)** introduces indefiniteness as the element cannot be defined upon itself as it is unclear what it is supposed to be. The original disclosure cites *R^1 is RCO*, which is substantially different and does not support the amendment **$R^1$is R^1(CO)**.

The **$R^3$is -(CH2CH2)N(CH2CH2(OH))CH2PO3H** is new matter and is unclear as it is substantially different from the original disclosure as it removes an oxygen from the

original formula and leaves an unstable charged molecule as a result. The original disclosure is *R^3 may be (CH2CH2)N(C2H4OH)-H2CHOPO3*, which is substantially different and does not support the amendment and the amendment produces an unstable charge on the phosphate group with the missing oxygen verses the original group.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Objections

11. Claim 18 is objected to because of the following informalities: there is a period after oleyl and before erucate. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claims 1, 4-12, 14-17,19, 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The composition as recited in the above claims does not specify or give the possible carbonyl derivatives for R^1 in the formula for the complexing agent, nor a description for the extent and degree of derivation for the carbonyl derivation (claims 1, 4-12, 14-17,19, 26). Claim 26 also

recites hydroquinone derivative and acylphloroglucide derivatives with no description in the specification to know what encompasses these terms, the degree or extent of derivation. These recitations are not described nor have adequate description for one of the art to know what is encompassed as the terms "derivative" and "complex" are indefinite and does not adequately describe or represent the genus of compounds addressed. The specification also does not provide adequate written description of such compounds.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1, 4-12, 14-17,19, 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite "the phosphate derivative of a lipophilic pharmaceutically acceptable compound" wherein it is unclear if the term is the phosphorylated lipophilic pharmaceutically acceptable compound or a phosphate derivative of the compound. The term "derivative" is indefinite as it unclear what is encompassed by the term and given the form any number of compounds given an infinite number of chemical reactions, the compounds and be anything and thereby it is unclear what is envisioned for the invention. It does not allow one of skill in the art to know the metes and bounds of the invention. For purposes of

prosecution, the term is treated as phosphorylated lipophilic pharmaceutically acceptable compound.

14. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to the recitation of hydroquinone derivative, and acylphloroglucide derivatives, the term "derivative" is indefinite as it unclear what is encompassed by the term and given the form any number of compounds given an infinite number of chemical reactions, the compounds and be anything and thereby it is unclear what is envisioned for the invention. It does not allow one of skill in the art to know the metes and bounds of the invention.

15. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites two different percentages for deionized water in two different areas of the claim it is unclear which is the right amount or if combined. The metes and bounds cannot be ascertained. The claim is not further treated on the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

16. Claims 1, 4, 12-13, 17 and 24 are rejected under 35 U.S.C. 102(a) as being anticipated by West (WO 02/40033).

West (WO 02/40033) teaches the use of electron transfer agents comprising phosphate complexes of tocopherol, the usefulness of these compounds in therapeutic formulations due to their enhanced absorption properties and a synergistic effect in enhancing dermal penetration of these phosphate derivatives. The carrier forms include shampoos, moisturizing cream, hair conditioner, and lotion. West addresses that the phosphate forms with the can diffuse through the epidermis when the micelles break near the hydrophobic skin surface facilitating the dermal transport inherently allowing improved transport for actives present in the carrier (e.g. shampoos, moisturizing cream, hair conditioner, and lotion). The composition could also comprise hydrophilic substances such as water, glycerol, PEG, sorbitol, or propanol. The phosphate complex was at 5% in solution in an exemplified formulation and lauryliminodipropionic acid tocopherol monophosphate is exemplified (Page 8) (see full document, specifically Page 3, line 1-8, line 22-Page 4, line 2, Page 5, paragraph 1-Page 6, paragraph 5, Pages 7 line 3-9 Example 2, Table 1).

17. Claims 1, 4-17, 19, 26 are rejected under 35 U.S.C. 102(a) as being anticipated by West et al (WO 02/40034).

West et al. (WO 02/40034) teaches the usefulness of complexes of one or more phosphorylated hydroxylated actives such as tocopherol, drugs e.g. cortisone, codeine, ibuprofen, thyroxine, morphine), and nutraceuticals; with complexing agents where the

preferred complexing agent is N-lauryl iminodi-propinate with therapeutic formulations and their enhanced absorption properties. West addresses that the phosphate forms facilitate the dermal transport inherently allowing improved transport for actives present in the carrier. Several examples of phosphate complexes are taught such as gel preparations for tetracycline (example 16) and delivery of retin A (Example 17). The examples also include the formation of lauryliminodipropionic acid tocopherol monophosphate (Example 1) and its uses in formulation with actives (e.g. Example 15, 18) inherently allowing improved transport for actives present in the carrier. It is also noted that West (WO 02/40034) teaches the incorporation of more than one complex with actives such as cortisone and timolol which are broader than the instant claims where the combination of these forms would inherently improve the efficacy of the hydroxylated actives (e.g. Examples 15, 18). The different examples fulfill the percent recitation of the claims and the inclusion of excipients (see full document, specifically Abstract, Page 1 paragraph 1, Page 4 paragraph 4, Page 5 paragraph 2 and 4, Page 6 paragraph 2-Page 7 paragraph 3, Page 8 paragraph 3-5, Page 9, Page 10-Page 12 paragraph 2, Page 13 paragraph 4-Page 14 paragraph 4, Examples, Page 31-34, claims 12-14).

All the critical elements are taught by the cited reference and thus the claims are anticipated.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

18. Claims 1, 4, 12-13, 17 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by West (WO 02/40033).

West (WO 02/40033) teaches the use of electron transfer agents comprising phosphate complexes of tocopherol, the usefulness of these compounds in therapeutic formulations due to their enhanced absorption properties and a synergistic effect in enhancing dermal penetration of these phosphate derivatives. The carrier forms include shampoos, moisturizing cream, hair conditioner, and lotion. West addresses that the phosphate forms with the can diffuse through the epidermis when the micelles break near the hydrophobic skin surface facilitating the dermal transport inherently allowing improved transport for actives present in the carrier (e.g. shampoos, moisturizing cream, hair conditioner, and lotion). The composition could also comprise hydrophilic substances such as water, glycerol, PEG, sorbitol, or propanol. The phosphate complex was at 5% in solution in an exemplified formulation and lauryliminodipropionic acid tocopherol monophosphate is exemplified (Page 8) (see full document, specifically Page 3, line 1-8, line 22-Page 4, line 2, Page 5, paragraph 1-Page 6, paragraph 5, Pages 7 line 3-9 Example 2, Table 1).

19. Claims 1, 4-17, 19, 26 are rejected under 35 U.S.C. 102(e) as being anticipated by West et al (WO 02/40034).

West et al. (WO 02/40034) teaches the usefulness of complexes of one or more phosphorylated hydroxylated actives such as tocopherol, drugs e.g. cortisone, codeine, ibuprofen, thyroxine, morphine), and nutraceuticals; with complexing agents where the preferred complexing agent is N-lauryl iminodi-propinate with therapeutic formulations and their enhanced absorption properties. West addresses that the phosphate forms facilitate the dermal transport inherently allowing improved transport for actives present in the carrier. Several examples of phosphate complexes are taught such as gel preparations for tetracycline (example 16) and delivery of retin A (Example 17). The examples also include the formation of lauryliminodipropionic acid tocopherol monophosphate (Example 1) and its uses in formulation with actives (e.g. Example 15, 18) inherently allowing improved transport for actives present in the carrier. It is also noted that West (WO 02/40034) teaches the incorporation of more than one complex with actives such as cortisone and timolol which are broader than the instant claims where the combination of these forms would inherently improve the efficacy of the hydroxylated actives (e.g. Examples 15, 18). The different examples fulfill the percent recitation of the claims and the inclusion of excipients (see full document, specifically Abstract, Page 1 paragraph 1, Page 4 paragraph 4, Page 5 paragraph 2 and 4, Page 6 paragraph 2-Page 7 paragraph 3, Page 8 paragraph 3-5, Page 9, Page 10-Page 12 paragraph 2, Page 13 paragraph 4-Page 14 paragraph 4, Examples, Page 31-34, claims 12-14).

All the critical elements are taught by the cited reference and thus the claims are anticipated.

20. Claims 1, 4-17, 19, 26 are rejected under 35 U.S.C. 102(e) as being anticipated by West et al. (U.S. Pat. Publication No. 2004/0253318).

West teaches the incorporation of electron transfer agents comprising phosphate complexes of tocopherol, the usefulness of these compounds in therapeutic formulations due to their enhanced absorption properties. West also teaches that tocopherol phosphate has been shown to regulate phosphorylation of the membrane messenger or signal protein resulting in a steeper oxygen gradient and a thinner epidermis which would allow for greater dermal transport and enhanced dermal transport as the epidermis is thinner. West also teaches the incorporation of other actives such as steroids, antibiotics, and salicylic acid which inherently improves their efficacy as the epidermis is thinner (see full document, specifically Abstract, Page 3, paragraph 39, Page 4 paragraph 61, paragraph 76, paragraph 85, Page 6, paragraph 94-96, page 12, Example 4, paragraph 168).

The applied references above have a common inventor/inventors and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

21. Claim 5-11, 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over West (WO 02/40033) as applied to claims 1, 4, 12-13, 17 and 24 above.

The teachings of West (WO 02/40033) are addressed above.

West does not expressly teach the range for the phosphorylated compound.

West does teach various carriers for the compound and exemplifies the compound at 5% in solution.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to utilize the exemplified amount of 5% and also to adjust the amount of the compound to optimize the desired effective amount to attain the desired therapeutic result, as it is a result-effective variable which would be routinely determined and optimized in the art through routine experimentation to attain the desirable amount of penetration absent evidence of criticality.

Response to Arguments

22. Claims 1,2, and 24 are rejected under 35 U.S.C. 102(a) and 102(e) as being anticipated by West (WO 02/40033).

Claim 2 is cancelled, the rejection is moot.

Applicant's argument filed 9/12/2008 has been fully considered but is not persuasive. Applicant's argument is centered on the assertion the West (WO 02/40033) does not teach the use of a phosphorlyated lipophilic compound of the amended claims. This is not persuasive as West (WO 02/40033) expressly teaches the formation of these phosphate complexes utilizing tocopherol and addresses the dermal disruption with respect to the tocopherol phosphate. West (WO 02/40033) also exemplifies lauryliminodipropionic acid tocopherol monophosphate (Page 7-8) and addresses the use of these complexes in formulations for application. The claim limitations are met.

Accordingly, the rejection is maintained.

23. Claims 1,2, and 24 are rejected under 35 U.S.C. 102(a) and 102(e) as being anticipated by West et al. (WO 02/40034).

Claim 2 is cancelled, the rejection is moot.

Applicant's argument filed 9/12/2008 has been fully considered but is not persuasive. Applicant's argument is centered on the assertion that West (WO 02/40033) does not teach the incorporation of a pharmaceutical active with a phosphorlyated lipophilic compound of the amended claims in a carrier. This is not persuasive as West (WO 02/40034) teaches several examples of phosphate complexes are taught such as gel preparations for tetracycline (example 16) and delivery of retin A (Example 17). The examples also include the formation of lauryliminodipropionic acid tocopherol monophosphate (Example 1) and its uses in formulation with actives (e.g. Example 15, 18). The claim limitations are met.

Accordingly, the rejection is maintained.

24. Claims 1,2, 18, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by West et al. (U.S. Pat. Publication No. 2004/0253318).

Claim 2 is cancelled, the rejection is moot.

Applicant's argument filed 9/12/2008 has been fully considered but is not persuasive. Applicant asserts that the reference teaches away from the claims as the reference teaches one type of preparation that may comprise a two-component system rather than a one component system. This is not persuasive as the reference teaches that the composition can be in two components and can be in one component wherein the active is incorporation in the composition (please see paragraph 76, 104,107).

Accordingly, the rejection is maintained.

Conclusion

25. Claims 1, 4-19, 26 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GIGI HUANG whose telephone number is (571)272-9073. The examiner can normally be reached on Monday-Thursday 8:30AM-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fredrick Krass can be reached on 571-272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GH
/Zohreh A Fay/
Primary Examiner, Art Unit 1612